

ABSTRACT

A method of delivering solid material at a position far enough from any surrounding solid with high enough target density without scattering debris to the environment. In the method, radiation is generated from plasma produced by laser irradiation on a material. This material is a cluster of particles composed of many fine particles bound together with a binder that vaporizes at a temperature lower than a melting point of fine particles. Density of particles in a particle-cluster is increased by vaporizing a solvent by heating a droplet with the irradiation of laser. The solvent of a droplet occupies a large fraction of the droplet to stabilize droplet generation. This solvent is vaporized prior to delivery to a vacuum chamber for plasma generation. This vaporization helps to avoid degradation of vacuum of the chamber. The diameter of a particle-cluster thus condensed is several tens μm .